



Mit-0506.ST25.txt
SEQUENCE LISTING

<110> Chen, Jianzhong
Ge, Qingshan
Eisen, Herman

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<141> 2003-09-29

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Mit-0506.ST25.txt

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| gaaccacaca aatgggagaa gtactgtgtt cttgagatag gagatatgct tctaagaagt | 1680 |
| gccataggcc aggtttcaag gcccatgttc ttgtatgtga ggacaaatgg aacctcaaaa | 1740 |
| attaaaatga aatggggaat ggagatgagg cgttgtctcc tccagtcact tcaacaaatt | 1800 |
| gagagtatga ttgaagctga gtcctctgtc aaagagaaa acatgaccaa agagttcttt | 1860 |
| gagaacaaat cagaaacatg gccattgga gagtctccca aaggagtgga ggaaagtctc | 1920 |
| attgggaagg tctgcaggac ttatttagca aagtcggtat ttaacagctt gtatgcatct | 1980 |
| ccacaactag aaggattttc agctgaatca agaaaactgc ttcttatcgt tcaggctctt | 2040 |
| agggacaatc tggaacctgg gacctttgat cttggggggc tatatgaagc aattgaggag | 2100 |
| tgccctaatta atgatccctg ggttttgctt aatgcttctt ggttcaactc cttccttaca | 2160 |
| catgcattga gttagtgtg gcagtgtac tatttgctat ccatactgtc caaaaaagta | 2220 |

ccttgtttct act

2233

<210> 122

<211> 2183

<212> DNA

<213> Influenza virus type A PA segment

<400> 122

```

agcgaaagca ggtactgatt caaaatggaa gattttgtgc gacaatgctt caatccgatg      60
attgtcgagc ttgcggaaaa ggcaatgaaa gagtatggag aggacctgaa aatcgaaaca      120
aacaaatttg cagcaatatg cactcacttg gaagtgtgct tcatgtattc agattttcac      180
ttcatcgatg agcaaggcga gtcaatagtc gtagaacttg gcgatccaaa tgcacttttg      240
aagcacagat ttgaaataat cgaggggaaga gatcgacaaa tagcctggac agtaataaac      300
agtatttgca acactacagg ggctgagaaa ccaaagtttc taccagattt gtatgattac      360
aagaagaata gattcatcga aattggagta acaaggagag aagttcacat atactatctg      420
gaaaaggcca ataaaattaa atctgagaag acacacatcc acattttctc attcactggg      480
gaggaaatgg ccacaaaggc cgactacact ctcgatgaag aaagcagggc taggatcaaa      540
accaggctat tcaccataag acaagaaaatg gctagcagag gcctctggga ttcctttcgt      600
cagtccgaga gaggcgaaga gacaattgaa gaaagatttg aaatcacagg aacaatgcgc      660
aagcttgccg accaaagtct cccgccaaac ttctccagcc ttgaaaattt tagagcctat      720
gtggatggat tcgaaccgaa cggctacatt gagggcaagc tttctcaa atgtccaaagaa      780
gtaaatgcta gaattgaacc ttttttgaaa tcaacaccac gaccacttag acttccggat      840
gggcctccct gttctcagcg gtccaaattc ctgctgatgg atgccttaa attaagcatt      900
gaggacccaa gtcatgaggg agaggggata ccgctatatg atgcaatcaa atgcatgaga      960
acattctttg gatggaagga acccaatgtt gttaaaccac acgaaaaggg aataaatcca     1020
aattatcttc tgtcatggaa gcaagtactg gcagaactgc aggacattga gaatgaggag     1080
aaaattccaa ggactaaaaa tatgaagaaa acgagtcagt taaagtgggc acttggtgag     1140
aacatggcac cagaaaagggt agactttgac gattgtaaag atgtaggcga tttgaagcaa     1200
tatgatagtg atgaaccaga attgaggtcg cttgcaagtt ggattcagaa tgagttcaac     1260
aaggcatgtg aactgaccga ttcaagctgg atagagctcg atgagattgg agaagatgcg     1320
gtccaattg aacacattgc aagcatgaga aggaattatt tcacagcaga ggtgtctcat     1380
tgagagcca cagaatacat aatgaagggg gtgtacatca atactgcctt gcttaatgca     1440
tcctgtgcag caatggatga tttccaatta attccaatga taagcaagtg tagaactaag     1500
gaggaaggc gaaagaccaa tttgtacggt ttcatcataa aaggaagatc ccacttaagg     1560
aatgacaccg atgtggtaaa ctttgtgagc atggagtttt ccctcactga cccaagactt     1620

```

Mit-0506.ST25.txt

| | |
|--|------|
| gaaccacaca aatgggagaa gtactgtgtt cttgaggtag gagatatgct tctaagaagt | 1680 |
| gccataggcc atgtgtcaag gcctatgttc ttgtatgtga ggacaaatgg aacctcaaaa | 1740 |
| attaaatga aatgggggat ggaaatgagg cgttgccctcc ttcagtcact tcaacaaatc | 1800 |
| gagagtatga ttgaagctga gtcctctgtc aaggagaaaag acatgaccaa agagttcttt | 1860 |
| gaaaacaaat cagaaacatg gcccgttggg gagtcccca aagtcggtat tcaacagctt | 1920 |
| gtatgcatct ccacaactgg aaggattttc agctgaatca agaaaactgc ttcttatcgt | 1980 |
| tcaggctctt agggacaacc tggaacctgg gacctttgat cttggggggc tatatgaagc | 2040 |
| aattgaggag tgcctgatta atgatccctg ggttttgctt aatgcttctt ggttcaactc | 2100 |
| cttcctcaca catgcattga gatagtgtg gcaatgctac tatttgctat ccatactgtc | 2160 |
| caaaaaagta ccttgtttct act | 2183 |

<210> 123

<211> 2233

<212> DNA

<213> Influenza virus type A PA segment

<400> 123

| | |
|--|------|
| agcaaaagca ggtactgatc cgaaatggaa gaatttgtgc gacaatgctt caatccgatg | 60 |
| attgtcgagc ttgctgaaaa agcaatgaaa gagtatggag aggatcggaa aatcgaaaca | 120 |
| aacaaatttg cagcaatatg cactcacttg gaagtatgct tcatgtattc agattttcat | 180 |
| ttcatcaatg agcaaggcga gtcaataata gtagagcttg atgatccaaa tgcacttttg | 240 |
| aagcacagat ttgaaataat agaggggaaga gatcgacaaa tggcctggac agtagtaaac | 300 |
| agtatttgca aactacagg agctgagaaa ccgaagtffc tgccagattt gtatgattac | 360 |
| aaggagaata gattcatcga gattggagtg acaaggaggg aagtccacat atactatctt | 420 |
| gaaaaggcca ataaaattaa atctgagaag acacacatcc acattttctc attcactggg | 480 |
| gaagaaatgg ccacaaaggc cgactacact ctcgatgagg aaagcagggc taggatcaag | 540 |
| accagactat tcaccataag acaagaaatg gctagcagag gcctctggga ttcctttcgt | 600 |
| cagtccgaaa gaggcgaaga aacaattgaa gaaagatttg aaatcacagg gacaatgcgc | 660 |
| aggctcgccg accaaagtct cccgccgaac ttctcctgcc ttgagaattt tagagcctat | 720 |
| gtggatggat tcgaacccaa cggctacatt gagggcaagc tttctcaa atgtccaaagaa | 780 |
| gtaaatgcta aaattgagcc ttttctgaaa acaacaccaa gaccaattaa acttccggat | 840 |
| gggcctcctt gctctcagcg gtccaaattc ctgctgatgg atgctttaaa attaagcatt | 900 |
| gaggacccaa gtcacgaagg agaggggaata ccactatatg atgcatcaa gtgtatgaga | 960 |
| acattctttg gatggaaaga accctatgtt gttaaaccac acgataaggg aataaatcca | 1020 |
| aattatctgc tgtcatggaa gcaattactg gcagaactgc aggacattga gaatgaggag | 1080 |

Mit-0506.ST25.txt

```

aagattccaa gaaccaaaaa catgaagaaa acgagtcagc taaagtgggc acttggtgag 1140
aacatggcac cagagaaggt agactttgac gactgtagag atataagcga tttgaagcaa 1200
tatgatagtg atgaacctga attaagggtca ctttcaagct ggatccagaa tgagttcaac 1260
aaggcatgcg agctgaccga ttcaatctgg atagagctcg atgagattgg agaagatgtg 1320
gctccaattg aacacattgc aagcatgaga aggaattact tcacagcaga ggtgtctcag 1380
tgacagagcca cagaatatat aatgaagggg gtatacatta atactgcctt gcttaatgca 1440
tcctgtgcag caatggacga tttccaacta attcccatga taagcaaatg tagaactaaa 1500
gaggggaaggc gaaagaccaa tttatatggt ttcatacataa aagggaagatc tcacttaagg 1560
aatgacaccg acgtggtaaa ctttgtgagc atggagtttt ctctcactga cccaagactt 1620
gagccacaca aatgggagaa gtactgtgtt cttgagatag gagatatgct actaagaagt 1680
gccataggcc aggtgtcaag gcccatgttc ttgtatgtga ggacaaatgg aacatcaaag 1740
attaaaatga aatggggaat ggagatgagg cgttgcctcc ttcagtcact ccaacaaatc 1800
gagagtatga ttgaagccga gtcctctgtc aaggagaaaag acatgaccaa agagtttttc 1860
gagaataaat cagaaacatg gccattgga gagtcccca aaggagtgga agaaggttcc 1920
attgggaagg tctgcaggac tttattagcc aagtcggtat tcaatagcct gtatgcatct 1980
ccacaattag aaggattttc agctgaatca agaaaaactgc ttcttgtcgt tcaggctctt 2040
agggacaatc ttgaacctgg gacctttgat cttggggggc tatatgaagc aattgaggag 2100
tgcctgatta atgatccctg ggttttgctt aatgcgtctt ggttcaactc cttcctaaca 2160
catgcattaa gatagtgtg gcaatgctac tatttgctat ccatactgtc caaaaaagta 2220
ccttgtttct act 2233

```

```

<210> 124
<211> 2209
<212> DNA
<213> Influenza virus type A PA segment

```

```

<400> 124
atggaagatt ttgtacgaca atgctttaat ccgatgattg tcgaacttgc ggaaaaggca 60
atgaaagagt atggagagga tcttaaaatc gaaacaaaca aatttgcagc aatatgcact 120
cacttggaag tatgcttcat gtattcagat tttcatttca tcaatgagca aggcgagtca 180
atagtggtag aacttgatga tccaaatgca cttttgaagc acagatttga aataatagag 240
ggaagagacc gcacaatggc ctggacagta gtaaacagta tttgcaacac cacaggagct 300
gagaaaccga agtttctgcc agatttgtat gattacaagg agaatagatt catcgagatt 360
ggagtgacaa ggagagaagt ccacatatac taccttgaag aggccataa aattaaatct 420
gagaatacac acatccacat tttctcattc actgggggaag aaatggccac aaaggccgac 480

```


Mit-0506.ST25.txt

| | |
|--|------|
| tacactctcg atgaggaaaag caggggctagg atcaaaaacca gactattcac cataagacaa | 540 |
| gagatggcca acagaggcct ctgggattcc tttcgtcagt ccgaaagagg cgaagaaaca | 600 |
| attgaagaaa gatttgaaat cacagggaca atgcgcaggc ttgccgacca aagtctccccg | 660 |
| ccgaacttct cctgccttga gaattttaga gcctatgtgg atggattcga accgaacggc | 720 |
| tacattgagg gcaagctttc tcaaatgtcc aaagaagtga atgcaaaaat tgaacctttt | 780 |
| ctgaaaacaa caccaagacc aattagactt ccggatggggc ctccttgttt tcagcgggtcc | 840 |
| aaattccttc tgatggatgc tttaaaagta agcattgagg atccaagtca cgaggggggag | 900 |
| ggaataccac tatatgatgc gatcaaatgc atgagaacat tttttggatg gaaagaaccc | 960 |
| tatattgtta aaccacacga aaaggggata aatccaaatt atctgctgtc atggaagcaa | 1020 |
| gtactggcag aactgcagga cattgaaaat gaggagaaaa ttccaagaac taaaaacatg | 1080 |
| aagaaaacga gtcagctaaa gtgggcactt ggtgagaaca tggcaccaga gaaggtagac | 1140 |
| tttgacaact gttagagacgt aagcgatttg aagcaatatg atagtgcga acctgaatta | 1200 |
| aggtcacttt caagctggat ccagaatgag ttcaacaagg catgcgagct gaccgattca | 1260 |
| acttggatag agctcgatga gattggagaa gacgtggctc caattgaata cattgcaagc | 1320 |
| atgagaagga attacttcac agcagagggtg tcccattgca gagccacaga atatataatg | 1380 |
| aaggggggat acattaatac tgccttgctt aatgcatcct gtgcagcaat ggacgatttc | 1440 |
| caactaattc ccatgataag caagtgtaga actaaagaag gaaggcgaaa gaccaattta | 1500 |
| tatggccttca tcataaaagg aagatctcac ttaaggaatg acaccgacgt ggtaaacctt | 1560 |
| gtgagcatgg agttttctct cactgaccgg agacttgagc cacacaaatg ggagaaatac | 1620 |
| tgtgtccttg agataggaga tatgctacta agaagtgtc taggccagat gtcaaggcct | 1680 |
| atgttcttgt atgtgagaac aaatggaaca tcaaagatta aaatgaaatg gggaatggag | 1740 |
| atgaggcggt gcctccttca gtcactccaa caaatcgaga gtatgattga agccgagtcc | 1800 |
| tctgtcaagg agaaagacat gaccaaagag ttttttgaga ataaatcaga aacatggccc | 1860 |
| attggggagt cccccaaggg agtggaagat ggttccattg ggaaggctct caggacttta | 1920 |
| ttggccaagt cggatttcaa tagcctgtat gcatccccgc aattggaagg gttttcagct | 1980 |
| gagtcaagaa aactgcttct tgtcgttcag gctcttaagg acaatcttga acctggaacc | 2040 |
| tttgatcttg aggggctata tgaagcaatt gaggagtgcc tgattaatga tccctgggtt | 2100 |
| ttgcttaatg cgtcgtgggt caactccttc ctaacacatg cattaagata gttgtggcaa | 2160 |
| tgctactatt tgctatccat actgtccaaa aaagtacctt gtttctact | 2209 |

<210> 125
 <211> 2233
 <212> DNA

<213> Influenza virus type A PA segment

<400> 125

```

agcaaaagca ggtactgatc caaaatggaa gactttgtgc gacaatgctt caatccaatg      60
attgtcgcgagc ttgcggaaaa gacaatgaag gagtatgggg aagatccgaa gattgaaaca      120
aacaagttcg ctgcaatatg cacacactta gaagtctgct tcatgtattc agacttccat      180
ttcattgacg aacgaggcga atcaataatt gtggaatctg gtgatccgaa tgcattgttg      240
aaacaccggt ttgaaataat tgaaggaaga gaccgagcaa tggcctggac agtggtgaat      300
agcatctgca acaccacagg agtcgataaa cccaaatttc ttccggatct atacgactac      360
aaggaaaacc gattcactga aattggtgtg acacggaggg aagttcatat atattactta      420
gagaaagcta acaagataaa atccgagaaa acacatatcc acatcttctc attcactgga      480
gaagaaatgg ccactaaagc tgactacacc cttgatgaag agagcagggc aagaatcaaa      540
accagactat tcaccataag acaggaaatg gcaagcaggg gtctatggga ctcttttcgt      600
cagtccgaga gaggcgaaga gacaattgaa gaaagatttg aaatcacagg gaccatgcgt      660
aggcttgccg accaaagtct cccacctaac ttctccagcc ttgaaaactt tagagcctat      720
gtggatggat ttaaaccgaa cggctgcatt gagggcaagc tttctcaa atgtcgaaagaa      780
gtgaacgccca gaattgagcc atttctgaag acaacaccac gtcctctcag attgcctgat      840
ggacctccct gctcccagcg gtcgaaattc ttgctgatgg atgctctgaa attaagcatt      900
gaggacccga gccatgaggg ggaggggata ccgctatatg atgcatcaa atgcatgaaa      960
acattctttg gctggagaga gcccacac atcaaaccac acgaaaaagg cataaatcca     1020
aattatctcc tggcttggaa gcagggtgctg gcagaactcc aggatattga aaatgaggat     1080
aaaatcccaa aaacaaagaa catgaagaaa acaagccaat taatgtgggc actcggagag     1140
aatatggcac cggaaaaagt ggactttgag gattgcaaag acattgatga tctgaaacag     1200
taccacagtg atgagccaga gcttagatcg ctagcaagct ggatccagaa tgagttcaac     1260
aaggcatgtg aattgaccga ttcgagctgg atagaacttg atgagatagg ggaagatgtt     1320
gccccaatg agcacattgc aagtatgaga aggaactact tcacagcgga ggtgtcccat     1380
tgcaagggcta ctgagtacat aatgaagggg gtttacataa atacagcttt gctcaatgca     1440
tcttgtgcag ccatggatga cttccaactg attccaatga taagcaa atg cagaacaaaa     1500
gaaggaagga ggaggacaaa cctgtatggg ttcatgttaa aaggaaggtc ccatttgaga     1560
aatgatactg acgtggtgaa ctttgtgagt atggaattct cccttactga cccaaggctg     1620
gagccacaca aatgggaaaa gtactgtgtt cttgaaatag gggaaatgct cttgcggact     1680
gcaataggtc aagtgtcaag gcccatgttc ctgtatgtga gaaccaacgg aacctcaaaa     1740
attaagatga aatgggggat ggaaatgagg cgctgccttc ttcaatctct tcaacagatt     1800

```

Mit-0506.ST25.txt

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| gagagcatga | tcgaggctga | gtcttctatc | aaagagaaag | acatgaccaa | agaattcttt | 1860 |
| gaaaacagat | cggagacatg | gccaatggga | gagtcaccta | agggagtggga | ggaaggctcc | 1920 |
| atcgggaagg | tgtgcagaac | cttactagca | aaatctgtgt | tcaacagcct | atattcatct | 1980 |
| ccacaactcg | aaggattttc | agctgaatcg | agaaaactac | tactcattgt | tcaagcactt | 2040 |
| agggacaacc | tggaacctgg | aaccttcgat | cttgaagggc | tatatggagc | aattgaggag | 2100 |
| tgcctgatta | atgatccctg | ggttttgctt | aatgcatctt | ggttcaactc | cttcctcaca | 2160 |
| catgcactaa | gatagtgtg | gcaatgctac | tatttgctat | ccatactgtc | caaaaaagta | 2220 |
| ccttgtttct | act | | | | | 2233 |

<210> 126

<211> 2233

<212> DNA

<213> Influenza virus type A PA segment

<400> 126

| | | | | | | |
|------------|-------------|-------------|------------|------------|--------------|------|
| agcaaaagca | ggtactgatc | cgaaatggaa | gactttgtgc | gacaatgctt | caatccaatg | 60 |
| attgtcgagc | ttgcggaaaa | gacaatgaag | gaatatgggg | aagacccgaa | aattgaaaca | 120 |
| aataagttcg | ctgcaatatg | cacacactta | gaagtctgct | tcatgtattc | agacttccat | 180 |
| ttcattgacg | aacgaggcga | atcaataatt | gtggaatctg | gtgatccaaa | tgcattgttg | 240 |
| aagcacaggt | ttgaaataat | tgaaggaaga | gaccgagcaa | tggcctggac | agtgggtgaat | 300 |
| agcatctgca | acacaacagg | agtcgataaa | cccaaatttc | ttccggatct | atacgactac | 360 |
| aaggaaaacc | gattcactga | aattggtgtg | acacggaggg | aagttcacat | atattactta | 420 |
| gaaaaagcta | acaagataaa | atccgagaaa | acacatatcc | acatcttttc | attcactgga | 480 |
| gaagaaatgg | ccactaaagc | tgactacacc | cttgatgaag | agagcagggc | aagaataaaa | 540 |
| accagactat | tcaccataag | acaggaaaatg | gcaagcaggg | gtctatggga | ttcctttcgt | 600 |
| cagtccgaga | gaggcgaaga | gacaattgaa | gaaagatttg | aaatcacagg | gaccatgcgt | 660 |
| aggcttgccg | accaaagtct | cccacctaac | ttctccagcc | ttgaaaactt | tagagcctat | 720 |
| gtggatggat | tcaaaccgaa | cggctgcatt | gagggcaagc | tttctcaa | atgtcgaaagaa | 780 |
| gtgaacgcc | gaattgagcc | atttctgaag | acaacaccac | gtcccctcag | attgcctgat | 840 |
| ggacctccct | gctcccagcg | gtcgaaattc | ttgctgatgg | atgctctgaa | attaagcatt | 900 |
| gaggacccga | gccatgaggg | ggaggggata | ccgctatatg | atgcgataaa | atgcatgaaa | 960 |
| acattcttcg | gctggagaga | gccaacatc | atcaagccac | acgagaaggg | cataaatccc | 1020 |
| aattatcttc | tggcttggaa | gcagggtgctg | gcagaactcc | aggatattga | aaatgaggat | 1080 |
| aaaatcccaa | aaacaaagaa | catgaagaaa | acaagccaat | taatgtgggc | actcggggag | 1140 |
| aatatggcac | cggaaaaaatt | ggactttgag | gactgcaaag | atattggcga | tctgaaacag | 1200 |

Mit-0506.ST25.txt

| | |
|---|------|
| tatcaaagtg atgagccaga gctcagatcg atagcaagct ggatccagag tgagttcaac | 1260 |
| aaggcatgtg aattgaccga ttcgagctgg atagaactcg atgagatagg ggaagatgtt | 1320 |
| gccccaatg agcacattgc aagcatgaga aggaactact tcacagcgga agtgtctcat | 1380 |
| tgcagggcca ctgagtacat aatgaagggg gtttacataa atacagcttt gctcaatgca | 1440 |
| tcttgtgcag ccatggatga cttccaactg attccaatga taagcaaagc cagaacaaaa | 1500 |
| gaaggaagaa ggaagacaaa cctgtatggg ttattataa aaggaaggct ccatttgaga | 1560 |
| aatgatactg acgtggtgaa ctttgtgagt atggaattct cccttactga cccaaggctg | 1620 |
| gagccacaca aatgggaaaa gtactgtgtt cttgaagtag gggaaatgct cttgcggact | 1680 |
| gcaataggcc aggtgtcaag gcccatgttc ctgtatgtga gaactaacgg aacctccaaa | 1740 |
| attaagatga aatgggggat ggaaatgaga cgctgccttc ttcaatctct tcaacagatt | 1800 |
| gagagcatga tcgaggctga gtcttctatc aaagagaaag acatgaccaa agaattcttt | 1860 |
| gaaaacagat cggagacatg gccaattgga gagtcaccta agggagtgga ggaaggctca | 1920 |
| atcggaagg tgtgcagaac ctactagca aaatctgtgt tcaacagcct atattcatct | 1980 |
| ccacaactcg aaggattttc agctgaatcg agaaaactac tactcattgt tcaagcactt | 2040 |
| agggacaacc tggaacctgg aacctttgat cttgaagggc tatatggagc aattgaggag | 2100 |
| tgcttgatta atgatccctg ggttttgctt aatgcatctt ggttcaactc cttcctcaca | 2160 |
| catgcactaa aatagttgtg gcaatgctac tatttgctat ccatactgtc caaaaaagta | 2220 |
| ccttgtttct act | 2233 |

<210> 127

<211> 2182

<212> DNA

<213> Influenza virus type A PA segment

<400> 127

| | |
|---|-----|
| agcgaaagca ggtactgatc caaaatggaa gattttgtgc gacaatgctt caatccgatg | 60 |
| attgtcgagc ttgcggaaaa aacaatgaaa gagtatgggg aggacctgaa aatcgaaaca | 120 |
| aacaaatttg cagcaatatg cactcacttg gaagtatgct tcatgtattc agatttcac | 180 |
| ttcatcaatg agcaaggcga gtcaataatc gtagaacttg gtgatcctaa tgcacttttg | 240 |
| aagcacagat ttgaaataat cgagggaaga gatcgacaaa tggcctggac agtagtaaac | 300 |
| agtatttgca aactacagg ggctgagaaa ccaaagtttc taccagattt gtatgattac | 360 |
| aaggaaaata gattcatcga aattggagta acaaggagag aagttcacat atactatctg | 420 |
| gaaaaggcca ataaaattaa atctgagaaa acacacatcc acattttctc gttcactggg | 480 |
| gaagaaatgg ccacaaaggc cgactacact ctcgatgaag aaagcagggc taggatcaaa | 540 |
| accaggctat tcaccataag acaagaaatg gccagcagag gcctctggga ttcctttcgt | 600 |

Mit-0506.ST25.txt

| | |
|---|------|
| cagtccgaga gaggagaaga gacaattgaa gaaaggtttg aaatcaCagg aacaatgCGc | 660 |
| aagcttgccg accaaagtct cccgccgaac ttctccagcc ttgaaaattt tagagcctat | 720 |
| gtggatggat tcgaaccgaa cggctacatt gagggcaagc tgtctcaaatt gtccaaagaa | 780 |
| gtaaatgcta gaattgaacc ttttttgaaa acaacaccac gaccacttag acttccgaat | 840 |
| gggcctccct gttctcagcg gtccaaattc ctgctgatgg atgccttaaa attaagcatt | 900 |
| gaggacccaa gtcataaagg agaggggaata ccgctatatg atgcaatcaa atgcatgaga | 960 |
| acattctttg gatggaagga acccaatgtt gttaaaccac acgaaaaggg aataaatcca | 1020 |
| aattatcttc tgtcatggaa gcaagtactg gcagaactgc aggacattga gaatgaggag | 1080 |
| aaaattccaa agactaaaaa tatgaaaaaa acaagtcagc taaagtgggc acttggtgag | 1140 |
| aacatggcac tatgatagt atgaaccaga attgaggtcg cttgcaagtt ggattcagaa | 1200 |
| tgagttcaac aaggcatgCG aactgacaga ttcaagctgg atagagcttg atgagattgg | 1260 |
| agaagatgtg gtcctaattg aacacattgc aagcatgaga aggaattatt tcacatcaga | 1320 |
| ggtgtctcac tgcagagcca cagaatacat aatgaagggg gtgtacatca atactgcctt | 1380 |
| acttaatgca tcttgtgcag caatggatga tttccaatta attccaatga taagcaagt | 1440 |
| tagaactaag gaggggaaggc gaaagaccaa cttgtatggt ttcatacataa aaggaagatc | 1500 |
| ccacttaagg aatgacaccg acgtggtaaa ctttgtgagc atggagtttt ctctcactga | 1560 |
| cccaagactt gaaccacaca aatgggagaa gtactgtgtt cttgagatag gagatatgct | 1620 |
| tctaagaagt gccataggcc aggtttcaag gcccattgtt ttgtatgtga ggacaaatgg | 1680 |
| aacctcaaaa attaaaatga aatgggggaat ggagatgagg cgttgtctcc tccagtcact | 1740 |
| tcaacaaatt gagagtatga ttgaagctga gtcctctgtc aaagagaaaag acatgaccaa | 1800 |
| agagttcttt gagaacaaat cagaaacatg gccattgga gagtctccca aaggagtgga | 1860 |
| ggaaagtctc attgggaagg tctgcaggac ttatttagca aagtcggtat ttaacagctt | 1920 |
| gtatgcatct ccacaactag aaggattttc agctgaatca agaaaactgc ttcttatcgt | 1980 |
| tcaggctctt agggacaatc tggaacctgg gacctttgat cttggggggc tatatgaagc | 2040 |
| aattgaggag tgcctaatta atgatccctg ggttttgctt aatgcttctt ggttcaactc | 2100 |
| ttccttacac atgcattgag ttagttgtgg cagtgtact atttgctatc catactgtcc | 2160 |
| aaaaaagtac cttgtttcta ct | 2182 |

<210> 128
 <211> 2233
 <212> DNA
 <213> Influenza virus type A PA segment

| | |
|---|----|
| <400> 128 | |
| agcgaaagca ggtactgatt caaaatggaa gattttgtgc gacaatgctt caatccgatg | 60 |

Mit-0506.ST25.txt

| | | | | | | |
|--------------|-------------|-------------|-------------|------------|------------|------|
| attgtcgcgagc | ttgcggaaaa | ggcaatgaaa | gagtatggag | aggacctgaa | aatcgaaaca | 120 |
| aacaaatttg | cagcaatatg | cactcacttg | gaagtgtgct | tcatgtattc | agattttcac | 180 |
| ttcatcgatg | agcaaggcga | gtcaatagtc | gtagaacttg | gcgatccaaa | tgcacttttg | 240 |
| aagcacagat | ttgaaataat | cgaggggaaga | gatcgacaaa | tagcctggac | agtaataaac | 300 |
| agtattttgca | acactacagg | ggctgagaaa | ccaaagtttc | taccagattt | gtatgattac | 360 |
| aagaagaata | gattcatcga | aattggagta | acaaggagag | aagttcacat | atactatctg | 420 |
| gaaaaggcca | ataaaattaa | atctgagaag | acacacatcc | acattttctc | attcactggg | 480 |
| gaggaaatgg | ccacaaaggc | cgactacact | ctcgatgaag | aaagcagggc | taggatcaaa | 540 |
| accaggctat | tcaccataag | acaagaaatg | gctagcagag | gcctctggga | ttcctttcgt | 600 |
| cagtccgaga | gaggcgaaga | gacaattgaa | gaaagatttg | aaatcacagg | aacaatgcgc | 660 |
| aagcttgccg | accaaagtct | cccgccaaac | ttctccagcc | ttgaaaattt | tagagcctat | 720 |
| gtggatggat | tcgaaccgaa | cggctacatt | gagggcaagc | tttctcaaat | gtccaaagaa | 780 |
| gtaaagtcta | gaattgaacc | ttttttgaaa | tcaacaccac | gaccacttag | acttccggat | 840 |
| gggcctccct | gttctcagcg | gtccaaattc | ctgctgatgg | atgccttaaa | attaagcatt | 900 |
| gaggacccaa | gtcatgaggg | agaggggata | ccgctatatg | atgcaatcaa | atgcatgaga | 960 |
| acatttcttg | gatggaagga | acccaatggt | gttaaaccac | acgaaaaggg | aataaatcca | 1020 |
| aattatcttc | tgtcatggaa | gcaagtactg | gcagaactgc | aggacattga | gaatgaggag | 1080 |
| aaaattccaa | ggactaaaaa | tatgaagaaa | acgagtcagt | taaagtgggc | acttggtgag | 1140 |
| aacatggcac | cagaaaaggt | agactttgac | gattgtaaag | atgtaggcga | tttgaagcaa | 1200 |
| tatgatagtg | atgaaccaga | attgaggtcg | cttgcaagtt | ggattcagaa | tgagttcaac | 1260 |
| aaggcatgtg | aactgaccga | ttcaagctgg | atagagctcg | atgagattgg | agaagatgcg | 1320 |
| gctccaattg | aacacattgc | aagcatgaga | aggaattatt | tcacagcaga | ggtgtctcat | 1380 |
| tgcagagcca | cagaatacat | aatgaagggg | gtgtacatca | atactgcctt | gcttaatgca | 1440 |
| tcctgtgcag | caatggatga | tttccaatta | attccaatga | taagcaagtg | tagaactaag | 1500 |
| gagggaaaggc | gaaagaccaa | tttgtacggt | ttcatcataa | aaggaagatc | ccacttaagg | 1560 |
| aatgacaccg | atgtggtaaa | ctttgtgagc | atggagtttt | ccctcactga | cccaagactt | 1620 |
| gaaccacaca | aatggggagaa | gtactgtggt | cttgaggtag | gagatatgct | tctaagaagt | 1680 |
| gccataggcc | atgtgtcaag | gcctatgttc | ttgtatgtga | ggacaaatgg | aacctcaaaa | 1740 |
| attaaaatga | aatgggggat | ggaaatgagg | cgttgcctcc | ttcagtcact | tcaacaaatc | 1800 |
| gagagtatga | ttgaagctga | gtcctctgtc | aaggagaaaag | acatgaccaa | agagttcttt | 1860 |
| gaaaacaaat | cagaaacatg | gcccgttgga | gagtccccca | aaggagtggg | ggaagggttc | 1920 |
| attgggaagg | tctgcagaac | tttattggca | aagtcggtat | tcaacagctt | gtatgcatct | 1980 |

Mit-0506.ST25.txt

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|------|
| ccacaactgg | aaggatttttc | agctgaatca | agaaaaactgc | ttcttatcgt | tcaggctctt | 2040 |
| agggacaacc | tggaacctgg | gacctttgat | cttggggggc | tatatgaagc | aattgaggag | 2100 |
| tgcttgatta | atgatccctg | ggttttgctt | aatgcttctt | ggttcaactc | cttcctcaca | 2160 |
| catgcattga | gatagttgtg | gcaatgctac | tatttgctat | ccatactgtc | caaaaaagta | 2220 |
| ccttgtttct | act | | | | | 2233 |

<210> 129

<211> 2183

<212> DNA

<213> Influenza virus type A PA segment

<400> 129

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|------|
| agcgaaagca | ggtactgatc | caaaatggaa | gaatttgtgc | gacaatgctt | caatccaatg | 60 |
| atcgtcgagc | ttgcggaaaa | gacaatgaaa | gaatatggag | aggacccgaa | gattgaaaca | 120 |
| aacaaattcg | cagcaatatg | cacacatttg | gaagtgtgtt | tcatgtattc | agattttccac | 180 |
| tttattgatg | aacggggaga | gtcaaagatt | gtagaatctg | gtgacccaaa | tgcactcttg | 240 |
| aagcaccgat | ttgagataat | tgaaggaaga | gatcgcacga | tggcctggac | ggtggtgaat | 300 |
| gtatgattat | aaggagaacc | gattcattga | aattggagtg | acaagaaggg | aggtccacat | 360 |
| atactactta | gaaaaagcca | ataagataaa | atctgagaag | acacacatcc | acatcttctc | 420 |
| attcactggg | gaagaaatgg | ccactaaggc | ggactacact | cttgatgaag | agagcagagc | 480 |
| aaggatcaaa | accaggctat | tcaccataag | acaagaaatg | gccagtagag | gcctctggga | 540 |
| ttcctttcgt | cagtccgaga | gaggcgaaga | gacaattgaa | gaaagatttg | aaatcacagg | 600 |
| aaccatgctc | aggcttgccg | aacaaagtct | cccaccgaac | ttctccagcc | ttgaaaactt | 660 |
| tagagcctat | gtggatggat | tcaaaccgaa | cggctgcatt | gagggcaagc | tttctcaaat | 720 |
| gtccaaagaa | gtaaatgcaa | gaatcgagcc | attcttgaag | acaacaccac | gccctctcag | 780 |
| attacctgat | gggcctccct | gttctcagcg | gtcaaaaattc | ctactgatgg | atgctctgaa | 840 |
| attaagcatt | gaagacccaa | gtcatgaggg | ggaggggata | ccactacatg | atgcaatcaa | 900 |
| atgcatgaag | acattctttg | gctggaaaga | gccaatatt | gtcaaaccgc | atgagaaggg | 960 |
| cataaatccc | aactatctcc | tggcttgga | ccagggtgcta | gcagaactga | aggatattga | 1020 |
| gaatgaggag | aaaattccaa | aaacaaaaaa | tatgaagaaa | acaagccagt | taaagtgggc | 1080 |
| acttggtgag | aacatggcac | cagagaaaagt | agactttgag | gattgcaagg | acattagcga | 1140 |
| tctgaagcag | tatgacagtg | atgagccaga | acagagatca | ctagcgagtt | ggatccagag | 1200 |
| tgaattcaac | aaagcatgtg | agctgaccga | ttcaggttgg | atagaacttg | atgaaatagg | 1260 |
| agaagatgta | gccccaatcg | agcacattgc | aagtatgagg | agaaactatt | tcacagcgga | 1320 |
| agtgctctac | tgcagggcaa | cggagtacat | aatgaaaggg | gtatacataa | acacggcctt | 1380 |

Mit-0506.ST25.txt

```

gctcaatgca tcttgtgcag ctatggatga cttccagctg atcccaatga taagcaaatg 1440
caggaccaa gaaggaagac ggaagacgaa tctgtatgga ttcattataa aaggaagatc 1500
tcacttgagg aatgatactg atgtgggtgaa ttttgtgagc atggagttct ctctcactga 1560
cccgaggctt gagccacaca agtgggagaa gtatttgtgtt cttgaaatag gagacatgct 1620
cctgcggaact gcaataggcc aagtatcaag gcccatgttc ctgtatgtga gaaccaatgg 1680
aacctccaaa atcaagatga aatgggggtat ggagatgaga cgttgccttc ttcagtcctc 1740
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ggaattcttt gaaaacaagt caaagacgtg gcccatgtga gaatcaccta aaggagtggg 1860
agaaggttcc atcgggaaaag tgtgcaggac cttactggcg aagtctgtat ttaacagctt 1920
atatgcatcc ccacaacttg agggattttc agcggaaatct agaaaaactgc tcctcattgt 1980
tcaggctctt agagacaacc tggaacctgg aaccttcgat cttggagggc tatatggagc 2040
aattgaggag tgcctgatta atgatccctg ggttttgctt aatgcatctt ggttcaactc 2100
cttcctcaca catgcaactga aatagtgtg gcaatgctac tatttgctat ccatactgtc 2160
caaaaaagta ccttgtttct act 2183

```

```

<210> 130
<211> 2090
<212> DNA
<213> Influenza virus type A PA segment

```

```

<400> 130
atggaagact tcgtgcgaca atgcttcaat ccaatgattg tcgagcttgc ggaaaaggca 60
atgaaagaat atggagaggg ccgaaaatc gaaacaaaca aatttgcagc aatatgcaact 120
catttggaag tgtgtttcat gtattcagac ttctacttca tcgatgagcg aggcgaatca 180
ataattgtag aatccggaga tccgaatgcc ctcttgaagc acagatttga aataattgag 240
ggaagagatc gcacaatggc ctggacagtg gtgaacagca tctgtaacac tacagggggtt 300
gagaagccaa ggtttctccc agatctatat gactacaagg agaacagggtt cattgagatt 360
ggagtgcaca ggagagaagt ccacatatac tacctggaaa aggccataa aataaagtct 420
gagaagacac atatccacat cttctcgttc acaggagaag agatggccac aaaggctgac 480
tacactcttg atgaagaaaag tagggccaga atcaaaaacta gactgttcac cataaggcag 540
gaaatggcca gtagaggtct ctgggattcc tttcgtcagt ccgagagagg cgaagagaca 600
attgaagaaa gatttgaaat cacaggaaca atgcgaggc ttgccgacca aagtctccca 660
ccgaacttct ccagccttga aaactttaga gcctatgtgg atggattcga accgaacggc 720
tgcattgagg gcaagctttc tcaaagtgtc aaagaagtga atgcaagaat tgaacccttt 780
ttgaagacaa caccacgccc actcaagcta ccagatgggc ctccctgctc ccagcgggtc 840

```


Mit-0506.ST25.txt

| | |
|--|------|
| aaattcctgc taatggacgc tttgaaatta agcattgagg acccaagcca tgaaggagaa | 900 |
| gggataccgc tatatgatgc aatcaaatgc atgaaaacat tctttgggtg gaaagaaccc | 960 |
| aatattgtta aaccacatga aaaaggaata aatccgaatt acctcttggc atggaaacaa | 1020 |
| gtactagcgg aactacagga tcttgaaaat gaagagaaaa ttccaaagac taaaaacatg | 1080 |
| aagaaaacaa gccaattaaa gtgggcactt ggtgagaata tggcaccaga aaaagtggat | 1140 |
| tttgaggact gcaaggatgt cagcgatctg aagcaatatg acagtgatga accggaaccg | 1200 |
| agatcgcttg caagtgggat tcagagtgaag ttcaataagg cgtgtgaact gactgattca | 1260 |
| agctggatag agcttgacga gattggggaa gatgttggcc caattgagca cattgcaagc | 1320 |
| atgaggagga attatttcac agcggagggtg tctcattgta gagccacaga atacataatg | 1380 |
| aaaggggtat acatcaatac tgccttgctc aatgcatcct gtgcggctat ggatgacttt | 1440 |
| caactgattc caatgatcag caagtgtaga actaaagagg gaagaagaaa gacaaatttg | 1500 |
| tatgggttca ttataaaagg gagatcccac ctgaggaacg acaccgatgt ggtaaacttt | 1560 |
| gtgagcatgg agttttccct cactgacccg aggcttgaac cgcacaaatg ggagaagtac | 1620 |
| tgtgttcttg aaatagggga catgcttcta agaactgcca taggccaagt ttcgaggccc | 1680 |
| atgttcctgt atgtgagaac gaatgggacc tccaaaatca aaatgaaatg ggggatggaa | 1740 |
| atgagacgct gtcttctcca gtcccttcaa caaattgaga gtatgattga agccgagtcc | 1800 |
| tctgtcaaag agaaggacat gaccaaaggg ggtggaggaa ggatccattg gaaaggctctg | 1860 |
| caggactctg ttggcaaagt ctgtattcaa cagcttgtag gcatctccac agctggaagg | 1920 |
| tttctcagct gaatcaagga aactgcttct tatcgttcag gctcttaggg acaacctgga | 1980 |
| acctggaacc tttgatcttg gaggattgca tgaagcaatt gaggagtgcc tgattaatga | 2040 |
| ccccctgggtt ttgcttaatg catcttggtt taactccttc ctcacacatg | 2090 |

<210> 131

<211> 2133

<212> DNA

<213> Influenza virus type A PA segment

<400> 131

| | |
|--|-----|
| agcaaaagca ggtactgatc caaaatggaa gactttgtgc gacaatgctt caatccaatg | 60 |
| atcgctcgagc ttgcggaaaa ggcgatgaaa gaatatggag aggacccgaa aattgaaaca | 120 |
| aacaaatttg cagcaatatg cactcacttg gaagtctgct tcatgtactc ggatttccac | 180 |
| tttattaatg aactgggcga gtcagtgatc atagagtctg gtgatccaaa tgctcttttg | 240 |
| aagcacagat ttgaaatcat tgaagggaga gatcgaacaa tggcatggac agtagtgaac | 300 |
| agtatctgca acaccacaag agctgaaaaa cccaagttcc tcccagattt gtacgactat | 360 |
| aaagagaaca ggtttggtga aattggtgtg acaaggagag aagttcacat atactacttg | 420 |

Mit-0506.ST25.txt

gagaaagcca acaaaataaa gtctgagaaa acacatatc acattttctc atttacagga 480
 gaggaatgg ctacaaaagc ggattatacc cttgatgaag aaagtagagc caggatcaaa 540
 accagactat tcaccataag acaagaaatg gccagcagag gcctttggga ctcctttcgt 600
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 aggcttgccg attacagtct cccaccgaac ttctccagcc attttcaaag acaacacccc 720
 ggccactcag gacaccgggt ggtccaccct gttatcagcg atccaaattc ttgctgatgg 780
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 acatcagtga tttgaaacag tatgacagt atgagccaga aacaagggtc cttgcaagtt 1140
 ggattcaaag tgagttcaac aaagcttggt agctgacaga ttcaagctgg atagagctcg 1200
 atgaaattgg ggaggatgtt gcccgaatag aacacattgc gagcatgagg aggaattatt 1260
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 gagacatgct cctaagaact gctgtaggcc aagtgtcaag acccatgttt ttgtatgtaa 1620
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 tatatgaatc aattgaggag tgtctgatta atgatccctg ggttttgctc aatgcatctt 2040
 ggttcaactc cttccttaca catgcaacta agtagttgtg gcaatgctac tatttgctat 2100
 ccatactgtc caaaaaagta ccttgtttct act 2133

<210> 132
 <211> 2233
 <212> DNA

<213> Influenza virus type A PA segment

<400> 132

| | |
|--|------|
| agcaaaagca ggtactgatt caaaatggaa gactttgtgc gacaatgctt caatccaatg | 60 |
| atcgtcgagc ttgcggaaaa ggcaatgaaa gaatatggag aggatccaaa aatcgagaca | 120 |
| aacaaattcg ctgcaatatg cacacacctg gaagtgtgtt tcatgtattc agacttccat | 180 |
| ttcattgatg aacgggggtga gtcgataatt gttgagtctg gtgatccaaa tgcactctta | 240 |
| aaacatcgat ttgaaataat cgaaggaaga gaccgtacta tggcctggac agtgggtgaat | 300 |
| agcatttgca acaccacagg agttgagaag ccaaagtttc ttccggactt atatgattat | 360 |
| aaagaaaatc gtttcattga aattggagtg acaaggaggg aggtccatat atactatcta | 420 |
| gaaaaggcca ataagataaa gtctgagaag acacacatcc atatcttttc attcactgga | 480 |
| gaagaaatgg ccacaaaagc agactacact cttgatgaag agagtagagc aaggatcaaa | 540 |
| accagactat tactataag acaagaaatg gccagtagag gtctctggga ttcctttcgt | 600 |
| cagtccgaga gaggcgaaga gacaattgaa gaaagatttg aaattacagg aaccatgcgc | 660 |
| aggctcgccg accaaaagtct cccaccgaac ttctccagcc ttgaaaactt tagagcctat | 720 |
| gtggatggat tcgaaccgaa cggctgcatt gagggcaagc tttctcaa atgtccaaagaa | 780 |
| gtaaatgcaa gaattgaacc atttttgaa acaacaccac gccctctcag attaccagaa | 840 |
| gggcctccct gctctcagcg gtcaaaaattt ctgttgatgg atgctctgaa gcttagcatt | 900 |
| gaagacccga gtcattgagg tgaggggaata cactgtatg atgctatcaa atgtatgaag | 960 |
| accttttttg gctggaaaga gcccacatt gtcaagccac atgagagggg cataaacctt | 1020 |
| aattatctcc tggcttgga gcaagtgcaa gcagaactgc aggatattga aaatgaagac | 1080 |
| aagattccaa agacaaaaaa catgaagaaa acaagccaat taaagtgggc acttggtgag | 1140 |
| aacatggcac cagagaaagt ggactttgaa gattgcaagg atgtcagcga tttgaaacag | 1200 |
| tatgacagcg atgagccaga acaaaggctc ctagcaagtt ggggccaaaag tgaattcaac | 1260 |
| aaagcttgat aattgactga ttcaagctgg atagaactcg atgaaatagg ggaaaatgtc | 1320 |
| gccccaatcg agcatattgc aagcatgagg aggaattatt ttacagctga agtgtctcac | 1380 |
| tgcagggcaa cagagtacat aatgaaggga gtgtacataa actcagcttt actcaacgcc | 1440 |
| tcttgtgcag ccatggatga ttttcagttg atcccaatga taagcaaatg cagaacaaaa | 1500 |
| gaaggacgac ggaaaacaaa tttgtatgga ttcatacataa aggggaaggc tcatttgagg | 1560 |
| aatgatactg atgtgggtgaa ttttgtgagc atggaatttt ctcttactga ccctagatta | 1620 |
| gaaccacaca agtggggagaa gtattgtgtc cttgaaatag gggatatgct cctacgaact | 1680 |
| gcaataggcc aagtttcaag acccatgttt ctgtatgtga caaccaatgg aacttccaag | 1740 |
| atcaaaatga aatgggggtat ggagatgagg cgttgtcttc ttcaatccct ccagcaaadc | 1800 |

Mit-0506.ST25.txt

gaaagcatga ttgaggccga gtcctctgtc aaggaaaaag acatgactaa agaattcttt 1860
 gaaaacaagt cggagacatg gccattgga gaatcaccca aaggagtaga agaaggttcc 1920
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 ccacaacttg aaggtttttc agctgagtca agaaagctgc ttctcattgt tcaggcactt 2040
 agggaacaacc tggaacctgg caccttcgat cttggggggc tatatgaagc aattgaggag 2100
 tgcctgatta atgatccctg ggttttgctt aatgcatctt ggttcaactc cttcctcaca 2160
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<211> 1635

<212> DNA

<213> Influenza virus type A PA Segment

<400> 133

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 tttgaaatca caggaacaat gcgcaggctt gccgaccaa gtctcccacc gaatttctcc 180
 agccttgaaa atttttagagc ctatgtggat ggattcgaac cgaacggctg cattgagggc 240
 aagctttctc agatgtcaaa agaagtaacg gccagaattg agccctttct taaaacaaca 300
 ccacgtcctc taagactgcc ggggtggacct ccctgttccc aaagggtcaaa attcttactg 360
 atggatgctc tgaaattaag cattgaggac ccgagtcag agggagaggg gataccgctg 420
 tatgatgcga tcaaatgcat gaaaacattt ttcggctgga aagagcccaa aattatcaag 480
 tcacatgaga agggataaaa cccaaattat ctcttagctt ggaagcaggt gctggcagag 540
 ctccaggaca ttgaaaatga tgaaaagatc ccaaaaacaa agaacatgaa gaaaacaagc 600
 caattaaagt gggcattagg tgagaacatg gcaccagaga aagtggactt tgaggattgc 660
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 agttggatcc agagtgaatt taacaaggca tgtgagttga ccgattcaag ctgggtagaa 780
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Mit-0506.ST25.txt

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| ctccttcaat cccttcaaca aattgagagc atgattgagg cagagtcttc tatcaaagag | 1320 |
| aaggacatga ccaaagaatt ttttgaaaac aagtcggaga cgtggccgat tggagagtca | 1380 |
| cctaagggag tggaggaagg ctccatcggg aaggtgtgca ggaccttact agcaaagtct | 1440 |
| gtgttcaaca gcttgtatgc atctccacaa ctcgaggggt tttcagctga atcaagaaaa | 1500 |
| ctgttactca ttgttcaggc acttagggac aacctggaac ctggaacctt cgacattgaa | 1560 |
| ggactgtatg aagcaattga ggagtgcctg attaatgata cctgggtttt gcttaatgca | 1620 |
| tcttggttca actcc | 1635 |

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| ttatttcttc ggagacaatg cagaggagta cgacaatta | 99 |

<210> 135
 <211> 100
 <212> DNA
 <213> Influenza virus type A NP Segment

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| cttatttctt cggagacaat gcagaggagt acgacaatta | 100 |

<210> 136
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 <213> Influenza virus type A NP segment

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<210> 138
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Mit-0506.ST25.txt

<212> DNA
 <213> Influenza virus type A NP segment

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 <212> DNA
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 <213> Influenza virus type A NP segment

 <400> 140
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 <210> 141
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 <212> DNA
 <213> Influenza virus type A NP segment

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 <210> 142
 <211> 100
 <212> DNA
 <213> Influenza virus type A NP segment

 <400> 142
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 <210> 143
 <211> 100
 <212> DNA
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<210> 144
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 <212> DNA
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 <210> 145
 <211> 13
 <212> DNA
 <213> Influenza virus type A vRNA

 <400> 145
 aguagaaaca agg 13

 <210> 146
 <211> 12
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 <400> 146
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 <210> 147
 <211> 12
 <212> DNA
 <213> Influenza virus type a mRNA

 <400> 147
 agcgaaagca gg 12

 <210> 148
 <211> 12
 <212> DNA
 <213> Influenza virus type A RNA

 <400> 148
 agcgaaagca gg 12

 <210> 149
 <211> 13
 <212> DNA
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 <400> 149
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 <210> 150
 <211> 21
 <212> DNA
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 <220>

<223> targeted to CD8 gene human
 <400> 150
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 <210> 151
 <211> 21
 <212> DNA
 <213> Artificial siRNA
 <220>
 <223> targeted to CD8 gene human
 <400> 151
 gucauguagu aguuguagct t 21
 <210> 152
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 ug 62
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 <211> 21
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 ggaucuuauu ucuucggagt t 21
 <210> 154
 <211> 21
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 <213> Artificial siRNA
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 <400> 154
 cuccgaagaa auaagaucct t 21
 <210> 155
 <211> 60
 <212> DNA
 <213> Artificial shrRNA
 <220>
 <223> targeted to influenza virus type A NP segment
 Page 40

<400> 155
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<210> 156
<211> 21
<212> DNA
<213> Artificial siRNA

<220>
<223> targeted to Aequonia victoria green fluorescent protein

<400> 156
ugcguccug gacguagcct t 21

<210> 157
<211> 21
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<220>
<223> targeted to Aequonia victoria green fluorescent protein

<400> 157
ggcuacgucc aggagcgcat t 21

<210> 158
<211> 60
<212> DNA
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<220>
<223> targeted to Aequonia victoria green fluorescent protein

<400> 158
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<210> 159
<211> 119
<212> DNA
<213> Artificial shRNA

<220>
<223> construct targeted to influenza virus type A NP segment and green fluorescent protein

<400> 159
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<210> 160
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<220>
<223> construct targeted to influenza virus type A NP segment and green

fluorescent protein

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<210> 161
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<220>
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<400> 161
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<210> 162
 <211> 36
 <212> DNA
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<220>
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<400> 162
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<210> 163
 <211> 24
 <212> DNA
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<220>
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<400> 163
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<210> 164
 <211> 23
 <212> DNA
 <213> Artificial primer

<220>
 <223> influenza virus type A M RNA

<400> 164
 taactagcct gactagcaac ctc 23

<210> 165
 <211> 25
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<220>
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<400> 165
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<210> 166
<211> 33
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<210> 167
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<210> 168
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<210> 169
<211> 25
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<220>
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<400> 169
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<210> 173
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 <400> 173
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<210> 176

<211> 25
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 <400> 176
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 <210> 177
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 <220>
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 <400> 177
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 <220>
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 <220>
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 <400> 179
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 <210> 180
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 a 61

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 <211> 55

<212> DNA
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 <220>
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 <220>
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 <213> Respiratory syncytial virus siRNA

 <400> 185
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 <210> 186
 <211> 19
 <212> DNA
 <213> Respiratory syncytial virus siRNA

 <400> 186
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<210> 187
 <211> 55
 <212> DNA
 <213> Artificial

 <220>
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 <210> 188
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 <400> 188
 ggauucuauu ucuucggaga tt 22

 <210> 189
 <211> 22
 <212> DNA
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 <220>
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 <400> 189
 ucuccgaaga aaauagaaucc tt 22

 <210> 190
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 <223> targeted to influenza virus type A PB2 segment

 <400> 190
 gaaagcaggu cauuuauaut t 21

 <210> 191
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 <400> 191
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 <210> 192
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<400> 207
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 <220>
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<400> 223
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<400> 228
 ugcagaggag uacgacaaud tdt 23

<210> 229
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 <220>
 <223> influenza virus type A NP segment

 <400> 229
 auugucguac uccucugcad tdt 23

<210> 230
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 <220>
 <223> influenza virus type A NP segment

 <400> 230
 gagtaatgaa ggatcttatt t 21

<210> 231
 <211> 23
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 <220>
 <223> influenza virus type A NP segment

 <400> 231
 ataagatcct tcattactcd tdt 23

<210> 232
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 <220>
 <223> influenza virus type A M segment

 <400> 232
 cgaaagcagg uagauauugt t 21

<210> 233
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 <220>
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 <400> 233
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<210> 234
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<212> DNA
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 uagauauuga aagaugagud tdt 23
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 acucaucuuu caauaucuad tdt 23
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 ucauggaaug gcuaaagact t 21
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 gucuuuagcc auuccaugat t 21
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<220>
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 cagaggugac aggauuggud tdt 23

<210> 240
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<210> 241
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 cagugagcga ggacugcagt t 21

<210> 243
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 cugcaguccu cgcucacugt t 21

<210> 244
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<220>
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<400> 244
gacgcuuugu ccaaaaugcd tdt 23

<210> 245
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<400> 245
gcauuuugga caaagcguct t 21

<210> 246
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<220>
<223> influenza virus type A M segment

<400> 246
gucaggcuag gcaaauggut t 21

<210> 247
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<220>
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<400> 247
accauuugcc uagccugacd tdt 23

<210> 248
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<400> 248
uucuugaaaa uuugcaggcd tdt 23

<210> 249
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<220>
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<400> 249
gccugcaau uuucaagaad tdt 23

<210> 250
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 ucauugggau cuugcacuud tdt 23

<210> 251
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 aagugcaaga ucccaaugat t 21

<210> 252
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 uguggauucu ugaucgucud tdt 23

<210> 253
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 agacgaucaa gaauccacat t 21

<210> 254
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 <400> 254
 ugucagcaua gagguggagt t 21

<210> 255
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<212> DNA
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 <220>
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 <400> 255
 cuccagcucu augcugacat t 21

 <210> 256
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 <212> DNA
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 <400> 256
 gtcgaaacgc ctatcagaad tdt 23

 <210> 257
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 uucugauagg cguuucgact t 21

 <210> 258
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 aaaagcaggg ugacaaagat t 21

 <210> 259
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 <212> DNA
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 <220>
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 ucuuugucac ccugcuuuut t 21

 <210> 260
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 <213> Artificial Sequence si(RNA)

<220>
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 <400> 260
 gcagggugac aaagacauad tdt 23

<210> 261
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 <212> DNA
 <213> Artificial Sequence (siRNA)

<220>
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 <400> 261
 uaugucuuug ucacccugcd tdt 23

<210> 262
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 <212> DNA
 <213> Artificial Sequence (siRNA)

<220>
 <223> targeted to influenza virus type A NS segment
 <400> 262
 ggaugucaaa aaugcaguut t 21

<210> 263
 <211> 21
 <212> DNA
 <213> Artificial Sequence (siRNA)

<220>
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 <400> 263
 aacugcauuu uugacaucct t 21

<210> 264
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 <212> DNA
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<220>
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 <400> 264
 agagauucgc uuggagaagt t 21

<210> 265
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 <212> DNA
 <213> Artificial Sequence (siRNA)

<220>
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<400> 265
cuuccuccaag cgaaucucut t 21

<210> 266
<211> 21
<212> DNA
<213> Artificial Sequence (siRNA)

<220>
<223> targeted to influenza virus type A NS segment

<400> 266
caguaaugag aaugggagat t 21

<210> 267
<211> 21
<212> DNA
<213> Artificial Sequence (siRNA)

<220>
<223> targeted to influenza virus type A NS segment

<400> 267
ucucccauuc ucauuacugt t 21

<210> 268
<211> 21
<212> DNA
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<220>
<223> targeted to influenza NS segment

<400> 268
uuguggauuc uugaucguct t 21

<210> 269
<211> 21
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<220>
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<400> 269
gacgaucaag aauccacaat t 21

<210> 270
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<213> Artificial

<220>
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<400> 270
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<210> 271

<211> 51

<212> DNA

<213> Artificial shRNA

<220>

<223> targeted to influenza virus type A NP segment

<400> 271

ggaucuuauu ucuucggaga uucaagagau cuccgaagaa auaagauccu u

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